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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,192	12/14/2000	Kazutaka Sasagawa	FUJY 18.090	9174
26304	7590	05/13/2004		
KATTEN MUCHIN ZAVIS ROSENMAN 575 MADISON AVENUE NEW YORK, NY 10022-2585				
			EXAMINER LAM, DANIEL K	
			ART UNIT 2667	PAPER NUMBER

DATE MAILED: 05/13/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/737,192

Applicant(s)

SASAGAWA ET AL.

Examiner

Daniel K Lam

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 2.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The title of the invention, "IP Communication Network System", is not descriptive. Since the major part of the invention involving data over TCP/IP, and voice and fax over RTP, they should be mentioned in the title. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The abstract is too long. It should be generally limited to a single paragraph within the range of **50 to 150 words**. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required.
3. On page 10, line 26, "FIG. 4", should be "FIGS. 4A to 4D" instead. Correction is required.

### *Claim Objections*

4. The following informalities are objected to:
  - In claim 1, lines 3 and 13, "switched circuit network" should be "circuit switched network" instead.
  - In claim 1, lines 8, 10, and 18, "deassembled" should be "disassembled" instead.
  - In claim 1, line 16, "deassembling" should be "disassembling" instead.

Appropriate corrections are required.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 8, 10, 17, 19, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Pat. No. 6,678,246 issued to Smyth in view of U. S. Pat. No. 5,303,344 issued to Yokoyama et al (hereinafter Yokoyama).

Regarding **claims 1, 10, 19 and 20**, Smyth discloses an IP communication interface device, a circuit switch, an IP communication network system including a circuit switch, and an IP communication network system including an IP communication interface device, for transporting voice and fax from a circuit switched network to and from Internet RTP/TCP/IP based data packet network, comprising:

- A TDM I/F 300 (see figure 9) interface connecting the device to a circuit switched network and an ETHERNET I/FACE interface connecting the device to the DATA (IP) NETWORK 30 (First and second connecting units between a switched circuit network and LAN connected to an IP packet switched network; claims 1 and 20. A first connecting unit connected directly to said highway switch; a second connecting unit for accommodating a LAN line connected to an IP packet switched network; claims 10 and 19).

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- A DSP (see figure 8, and col. 7, lines 9-12) for processing real-time data from/to the TDM I/F (A first processing unit for coding first media-corresponding data as B-channel data, decoding packet-disassembled media-corresponding data into which a packet of second media-corresponding data is disassembled, and for transmitting the decoded media-corresponding data to the first connecting unit; claims 1, 10, 19 and 20).
- A Packet Processor for handling RTP packets (see figure 8, and col. 6, lines 47-48). The Packet Processor is located between the DSP and a CPU (A second processing unit for assembling the coded media-corresponding data coded by said first processing unit into a packet, disassembling the packet of the second media-corresponding data, and transmitting the same data as packet-disassembled media-corresponding data to said first processing unit; claims 1, 10, 19 and 20).
- A PBX A comprises DLC 12 for interfacing to phone 10 and FAX 11 and a TDM BACK PLANE 15 (see figure 3) (A highway switch accommodating at least one of a voice terminal and a facsimile terminal, and including a time division multiplexing transmission path; claims 10 and 19).

However, he does not disclose

- A third processing unit for generating the second data by adding predetermined header to the packet-assembled media-corresponding data assembled into a packet by the second processing unit, forwarding the second media-corresponding data to the LAN via the second connecting unit, removing the header added to the second media-corresponding data inputted to the second connecting unit, and transmitting the

second data with the header removed to the second processing unit (claims 1, 10, 19, and 20).

- A highway switch accommodating at least one of a data terminal (claims 10 and 19).

On the other hand, Yokoyama discloses a PROTOCOL PROCESSOR 10 (see figure 8, and col. 6, lines 53-56) comprising multiple DATA TRANSFER PROCESSOR[s] 100-1 to 100-3. Each DATA TRANSFER PROCESSOR is responsible for processing packets for a particular layer. For example, DATA TRANSFER PROCESSOR 100-1 handles layer 4 functionalities. Furthermore, Yokoyama discloses a COMPUTER 1 connects to the PROTOCOL PROCESSOR 10 via COMPUTER INTERFACE 20 (see figure 2 and col. 4, lines 34-39).

Therefore, it would have been obvious to those having ordinary skill in the art, at the time of invention, to design an IP communication device with two interface devices which allow communications to voice, FAX, data, and LAN, and three processors, namely, first, second, and third processing units such that each processor is responsible for a particular layer of functionalities for a key motivation. Since by having three processors, layered protocol processing, for the voice, FAX, and data, can be pipelined, thereby achieving a high throughput. See col. 1, lines 35-38.

Regarding **claims 8 and 17**, in addition to disclose the limitations in claims 1 and 10 discussed earlier, Smyth (see figure 8) further discloses using a CPU to handle CALL SET-UP (TCP/IP) at step 200 (wherein said third processing unit identifies a call control signal as D-channel data in accordance with a message based on a specified protocol, and

penetratingly transmits and receives the call control signal simply by adding and removing the TCP and IP headers).

7. **Claims 2-7, 9, 11-16, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Pat. No. 6,678,246 issued to Smyth in view of U. S. Pat. No. 5,303,344 issued to Yokoyama et al (hereinafter Yokoyama) in further view of U. S. Pat. No. 6,603,757 issued to Locascio.

Regarding **claims 2 and 11**, in addition to disclose the limitations in claims 1 and 10 discussed earlier, Smyth further discloses the first and second media-corresponding data include voice data transmitted from a voice terminal having a voice communication function (see figure 3, DLC 12 and phone 10, and col. 3, lines 50-53), facsimile data transmitted from a facsimile terminal having a facsimile communication function (see figure 3, DLC 12 and FAX 11).

However he does not disclose the limitation of data transmitted from a data terminal having a data communication function. On the other hand, Locascio discloses using SMART LINE CARD 26 with T1, E1, or J1 functionalities to connect to data or voice terminals (see figure 1, and col. 2, lines 52-54).

Therefore, it would have been obvious to those having ordinary skill in the art, at the time of invention, to design an IP communication interface device not only comprise interfaces to external voice and fax devices but also to external devices that have T1, E1, or J1 interfaces a key reason. Since currently there are many data routers that have T1, E1, or J1 interfaces and the Internet is providing lower price services to the users, so it is

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a lot cheaper to route any traffic, including, voice, fax, and data to the Internet instead of the traditional long distance and local exchange carriers as taught by Locascio. See col. 1, lines 16-22.

Regarding **claims 3 and 12**, in addition to disclose the limitations in claims 2 and 11 discussed earlier, Locascio further discloses there are many SMART LINE CARD[s] 26. Each SMART LINE CARD is specialized to handle one function, i.e. T1, E1, or J1 interface, under the control of the CPU card 44a (see figure 1) (wherein said first and second processing units are functionally divided corresponding to voice, facsimile, and selecting unit for selecting said first functionally divided processing unit in accordance with a command given from said third processing unit). See col. 2, lines 52-54, and col. 3, lines 17-20.

Regarding **claims 4, 5, 13 and 14**, in addition to disclose the limitations in claims 2 and 11 discussed earlier, Smyth further discloses the packet processor receives TEMPLATE 220, SET UP RTP STREAM MONITORING, and APPLY TEMPLATE TO FORM UDP/IP PACKET 270 for processing real-time voice and facsimile data using RTP (see figure 8 references 220, 230 and 270) (Wherein the second processing unit, when the first media-corresponding data are voice or facsimile, generates packet-assembled media-corresponding data to which an RTP for enabling a real time transport to be done is added; claim 4. Wherein the second processing unit, when the second media-corresponding data are voice or facsimile, generates packet-disassembled media-corresponding data from which the RTP for enabling the real time transport to be done is removed; claim 5).



Regarding **claims 6, 7, 15 and 16**, in addition to disclose the limitations in claims 2 and 11 discussed earlier, Yokoyama discloses DATA TRANSFER PROCESSOR 100-1 (third processing unit) is for handling layer 4 functionalities, i.e. TCP, UDP, and IP protocol (see figure 8). Smyth further discloses data traffic are typically uses TCP/IP protocol and speech traffic are typically uses UDP/IP protocol (Wherein said third processing unit, when the packet-assembled media-corresponding data generated by the second processing unit are voice or facsimile, adds a UDP/IP header, and, when the packet-assembled media-corresponding data are data, adds a TCP/IP header; claim 6. Wherein said third processing unit, when the second media-corresponding data are voice or facsimile, removes the UDP/IP header, and when the second media-corresponding data are data, removes the TCP/IP header). See col. 3, lines 60-64.

Regarding **claims 9 and 18**, in addition to disclose the limitations in claims 1 and 10 discussed earlier, Yokoyama discloses the DATA TRANSFER PROCESSOR[s] 100-1 to 100-3, and a BACKEND PROCESSOR 200 can be squeezed into a single PROTOCOL processor 10 package (see figure 8). Further more, Locascio discloses each VDAC is being packaged with four daughter boards 80a to 80d (see figures 2B and 2C). Furthermore each daughter board contains 8 DSPs (see col. 4, lines 6-9) (wherein said first and second connecting units and said first, second and third processing units are mounted in a package card).

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K. Lam whose telephone number is (703) 305-8605. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:30 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status Information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKL *dkl*  
May 6, 2004

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
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5/10/04